CTN Test Report

AFTB-ID
92-025
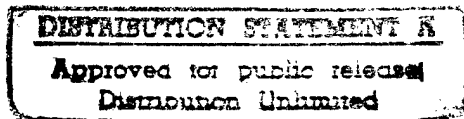
CALS TEST NETWORK 92-015

Technical Publication Transfer Test

Using VSE Corporation

MIL-D-28001A (SGML)
MIL-R-28002A (Raster)

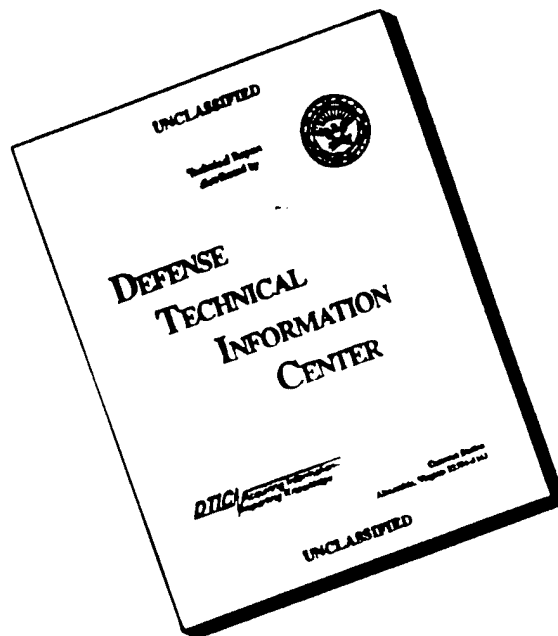# Quick Short Test Report

10 November 1992

19960822 201

Prepared for

Air Force Materiel Command

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Technical Publication Transfer

Using VSE Corporation

MIL-M-28001A (SGML)

MIL-R-28002 (Raster)

Quick Short Test Report

10 November 1992

Prepared By
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Contents

1. Introduction

1.1 Background

The DoD Computer-aided Acquisition and Logistics Support (CALS) Test Network (CTN) is conducting tests of the military standard for the Automated Interchange of Technical Information, MIL-STD-1840A, and its companion suite of military specifications. The CTN is a DoD-sponsored confederation of voluntary participants from industry and government managed by the Air Force Materiel Command.

The primary objective of the CTN is to evaluate the effectiveness of the CALS Standards for technical data interchange and to demonstrate the technical capabilities and operational suitability of those standards. Two general categories of tests are performed to evaluate the standards, formal and informal. Formal tests are large, comprehensive tests that follow a written test plan, require specific authorization from DoD, and may take months to prepare, execute, and report.

Informal tests are used by the CTN technical staff to broaden the testing base by including representative samples of the many systems and applications used by CTN participants. They also allow the CTN staff to gain feedback from many industry and government interpretations of the standards, to increase the base of participation in the CALS initiative, and to respond, in a timely manner, to the many requests for help that come from participants. Participants take part voluntarily and are benefited by receiving an evaluation of their latest implementation (interpretation) of the standards, interacting with the CTN technical staff, gaining experience in use of the standards, and developing increased confidence in them. The results of informal tests are reported in Quick Short Test Reports (QSTRs) that briefly summarize the standard(s) tested, the hardware and software used, the nature of the test, and the results.

1.2 Purpose

The purpose of the informal test reported in this QSTR was to analyze VSE Corporation's interpretation and use of the CALS Standards in transferring technical publications data. VSE Corporation used its CALS Technical Data Interchange System to produce data in accordance with the standards and delivered it to the CTN technical staff on a 9-track magnetic tape.

2. Test Parameters

Test Plan: AFTB 92-25

Date of
Evaluation: 3 April 1992

Evaluator: George Elwood
                           Air Force CALS Test Bed
                           HQ AFMC/ENCT
                           4027 Colonel Glenn Hwy
                           Suite 200
                           Dayton, OH 45431-1601

Data
Originator: Steve Weber
                           VSE Corporation
                           Marine Corp Systems Division
                           2760 Eisenhower Ave.
                           Alexandria, VA 22314

Data
Description: Technical Manual Test
                                   1 document declaration file
                                   1 DTD
                                   1 TEXT file
                                   1 TEXT file
                                   31 Raster files

Data
Source System:

              Text/SGML
                           HARDWARE
                           Sun 3/60
                           Sun 3/280

                           SOFTWARE
                           ProPub II
                           VSE Tag Conversion Program
                           Exoterica XGML Normalizer

              Raster
                           HARDWARE
                           Sun 3/60

                           SOFTWARE
                           CAPS Graphics Translator

**Evaluation
Tools Used:**

           MIL-STD-1840A (TAPE)
                   SUN 3/280
                            CTN Tapetools (v1.2.8) UNIX
                            Agfa Compugraphics CALS v40.4

         MIL-M-28001 (SGML)
                   Cheetah Gold 486
                            Exoterica XGML   V1.2e3.2
                            Datalogics ParserStation v3.36

         MIL-R-28002 (Raster)
                   SUN 3/60
                            CTN Raster Tools
                            AGFA Compugraphics
                            Rosetta Technology Preview V3.1
                   Cheetah
                            Inset Systems HiJaak V2.02
                            Xerox Ventura Publisher

**Standards
Tested:**
         MIL-STD-1840A
         MIL-M-28001A
         MIL-R-28002

3. 1840A Analysis

3.1 External Packaging

The tape arrived at the Air Force Test Bed enclosed in a box IAW ASTM D 3951. The exterior of the box was marked with the required magnetic tape warning label, MIL-STD-1840A, para. 5.3.1.3.

The tape was enclosed in a barrier bag as required by MIL-STD-1840A, para. 5.3.1.2. Inspection of the tape reel showed the required label indicating the recording density as required by MIL-STD-1840A, para. 5.3.1. Enclosed in the box was a packing list showing all files that were recorded on the tape.

3.2 Transmission Envelope

The 9-track tape received by the Air Force Test Bed contained MIL-STD-1840A files. The files were named per the standard conventions.

3.2.1 Tape Formats

The 1840A Tape was run through the AFTB TAPETOOL utility version 1.2.8. Two warnings were encountered while evaluating the contents of the tape labels. All of the errors are shown in Appendix A, Section Two, Tape Import Log.

Both reported warnings were the same. Tapetool encountered carriage returns in the two text files, D001T032 and D001G033. This problem normally occurs when text files are generated on a PC and then transferred to a UNIX based system. While not an error, these characters could cause a problem on some systems.

> *** *WARNING - This variable length record type file contained carriage control characters. Carriage control characters are used as record terminators and are interpreted differently among dissimilar systems.*

The tape was also read using Agfa CAPS *read1840A* tape utility without a reported error.

3.2.2 Declaration and Header Fields

No errors were reported in the Declaration file or the data file
header records.

4. IGES Analysis

No IGES files were included on the tape.

5. SGML Analysis

The DTD and text file from this document were tested using the
Exoterica *XGMLNormalizer* parser. During the parsing operation on
the DTD four errors were reported. The first error was the
duplicate definition of the entity reference fax. The entity was
added to the list of external graphics entities and was also
found in the DTD. It was also noted that the "!" was missing
from the line. This line was commented out. It was also noted
that the DOCTYPE statement was also missing the "!".

```
<DOCTYPE doc PUBLIC "-//USA-DOD//DTD MIL-M-38784C 093090//EN" [

<NOTATION fax PUBLIC "-//USA-DOD//NOTATION CCITT Group 4 Facsimile//EN">
```

The second set of errors were reported immediately after the
external graphics references. The classification line had the
comment line constructed incorrectly. The comment out termina-
tion was inserted after the graphic entities and a second termi-
nation was inserted after the first of two classification state-
ments. The first comment termination was removed and the DTD
parsed without reported error.

```
                    Removed this termination ─────────┐ <!ENTITY fig6-6.2 SYSTEM "d001r0
NDATA fax> ]>  -->
<doc service="MC" docid="TM 2350-25&amp;P/2" security="uc"> -->
<doc service="MC" docid="TM 2350-25&amp;P/2" security="u">
```

Using the compiled DTD, the text file parsed without error.

The DTD and text file were then parsed using the Datalogics *Pars-
erStation* software. The required changes were made to the DTD

and it parsed without reported error. The compiled DTD was then used to parse the text file. This was accomplished without a reported error. It should be noted that the DataLogics parser does not use the added memory capability of the computer. This limits the size of text files that can be parsed. If the menu structure is used, it is not possible to parse the complete document. If the command line parsing operation is used, it is possible to complete the task. This memory limitation made it impossible to use the USLynx *CALS Solution* software to generate sample pages from the document.

6. Raster Analysis

All 31 raster images were checked using the CTN *validg4* utility. File D001R006, D001R007, and D001R008 were reported as not meeting the CALS Standards. The error logs for these three files are included in the appendix to this report.

All sections of the raster files were converted using Rosetta Technologies *Prepare*. Files D001R006, D001R007, and D001R008 would not convert and reported that the files were bad. The remainder of the selected files converted without a reported error. The converted files were then viewed and printed using Rosetta's *Preview*. The printing was produced medium quality on a postscript printer with the exception of file D001R020 which was printed in high quality. The higher quality output indicates a very good raster image. No orphan pixels were noted on the selected files. The hard copies are included in the appendix to this report.

The files were then converted to an IMG format using Inset Systems *HiJaak*. These files were then inserted into a graphics document using Xerox *Ventura Publisher*. This document is included in the appendix to this report. *HiJaak* was able to convert files D001R006 and D001R007 but the files displayed that they were bad. *HiJaak* would not convert file D001R008.

7. CGM Analysis

No CGM files were included on the tape.

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8. Conclusions and Recommendations

In summary, the MIL-STD-1840A tape from VSE Corporation was correct. The tape could be read using the software tools available in the Air Force CALS Test Bed with reported problems. Two warnings were generated by TAPETOOL on the use of carriage returns in the text files.

There were four reported errors in the DTD. Three of these errors relate to the incorrect placement of a comment termination. The other error was the duplicate definition of an entity. The text file parsed without reported error using the two parsers available in the AFCTB.

The 31 raster images were evaluated and three were found to be bad. The remaining raster images were valid and hard copies were made and are included in this report.

The tape from VSE Corporation, with the above noted exceptions, met the current CALS Standards.

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9. Appendix A - Tape Tool Report Logs

9.1 Tape Catalog

CALS Test Network Catalog Evaluation - Version 1.2; Release Number 8

Standards referenced:
  MIL-STD-1840A (1987) - Automated Interchange of Technical Information
  ANSI X3.27 (1987) - File Structure and Labelling of Magnetic Tapes
                    for Information Interchange
  ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Fri Apr 3 10:59:05 1992

MIL-STD-1840A File Catalog

File Set Directory: /cals/tapetool8/Set099

Page: 1

File Name	File Type	Record Format/ Length	Block Length/Total	Selected/ Extracted
D001	Document Declaration	D/00260	02048/000001	Extracted
D001G033	DTD	D/00260	02048/000016	Extracted
D001R001	Raster	F/00128	02048/000006	Extracted
D001R002	Raster	F/00128	02048/000010	Extracted
D001R003	Raster	F/00128	02048/000082	Extracted
D001R004	Raster	F/00128	02048/000003	Extracted
D001R005	Raster	F/00128	02048/000014	Extracted
D001R006	Raster	F/00128	02048/000019	Extracted

<<<<< *PART OF LOG REMOVED HERE* >>>>>

File Name	File Type	Record Format/ Length	Block Length/Total	Selected/ Extracted
D001R030	Raster	F/00128	02048/000006	Extracted
D001R031	Raster	F/00128	02048/000013	Extracted
D001T032	Text	D/00260	02048/000212	Extracted

Catalog Process terminated normally.

9.2 Tape Evaluation Log

CALS Test Network Tape Evaluation - Version 1.2; Release Number 8
  Standards referenced:
    ANSI X3.27 (1987) - File Structure and Labelling of Magnetic Tapes
                         for Information Interchange
    ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Fri Apr 3 10:58:08 1992

ANSI Tape Import Log

Allocating tape drive /dev/rmt0...

/dev/rmt0 allocated.

VOL1VSEC01   4

  Label Identifier: VOL1
  Volume Identifier: VSEC01
  Volume Accessibility:
  Owner Identifier:
  Label Standard Version: 4

HDR1D001   VSEC0100010001000000 92069 00000 000000

  Label Identifier: HDR1
  File Identifier: D001
  File Set Identifier: VSEC01
  File Section Number: 0001
  File Sequence Number: 0001
  Generation Number: 0000
  Generation Version Number: 00
  Creation Date: 92069
  Expiration Date: 00000
  File Accessibility:
  Block Count: 000000
  Implementation Identifier:

HDR2D0204800260   00

  Label Identifier: HDR2
  Recording Format: D
  Block Length: 02048
  Record Length: 00260
  Offset Length: 00

*********** Tape Mark **************

Actual Block Size Found = 2048 Bytes.

Number of data blocks read = 1.

*********** Tape Mark ***************

EOF1D001   VSEC0100010001000000 92069 00000 000001

  Label Identifier: EOF1
  File Identifier: D001
  File Set Identifier: VSEC01
  File Section Number: 0001
  File Sequence Number: 0001
  Generation Number: 0000
  Generation Version Number: 00
  Creation Date: 92069
  Expiration Date: 00000
  File Accessibility:
  Block Count: 000001
  Implementation Identifier:

EOF2D0204800260   00

  Label Identifier: EOF2
  Recording Format: D
  Block Length: 02048
  Record Length: 00260
  Offset Length: 00

*********** Tape Mark ***************

HDR1D001G033   VSEC0100010002000000 92069 00000 000000

  Label Identifier: HDR1
  File Identifier: D001G033
  File Set Identifier: VSEC01
  File Section Number: 0001
  File Sequence Number: 0002
  Generation Number: 0000
  Generation Version Number: 00
  Creation Date: 92069
  Expiration Date: 00000
  File Accessibility:
  Block Count: 000000
  Implementation Identifier:

HDR2D0204800260   00

Label Identifier: HDR2
Recording Format: D
Block Length: 02048
Record Length: 00260
Offset Length: 00

*********** Tape Mark **************

Actual Block Size Found = 2048 Bytes.

*** *WARNING - This variable length record type file contained
    carriage control characters. Carriage control characters
    are used as record terminators and are interpreted
    differently among dissimilar systems.*

Number of data blocks read = 16.

*********** Tape Mark **************

EOF1D001G033   VSEC0100010002000000 92069 00000 000016

  Label Identifier: EOF1
  File Identifier: D001G033
  File Set Identifier: VSEC01
  File Section Number: 0001
  File Sequence Number: 0002
  Generation Number: 0000
  Generation Version Number: 00
  Creation Date: 92069
  Expiration Date: 00000
  File Accessibility:
  Block Count: 000016
  Implementation Identifier:

EOF2D0204800260   00

  Label Identifier: EOF2
  Recording Format: D
  Block Length: 02048
  Record Length: 00260
  Offset Length: 00

*********** Tape Mark **************

HDR1D001R001   VSEC0100010003000000 92069 00000 000000

  Label Identifier: HDR1
  File Identifier: D001R001
  File Set Identifier: VSEC01

File Section Number: 0001
File Sequence Number: 0003
Generation Number: 0000
Generation Version Number: 00
Creation Date: 92069
Expiration Date: 00000
File Accessibility:
Block Count: 000000
Implementation Identifier:

HDR2F0204800128   00

  Label Identifier: HDR2
  Recording Format: F
  Block Length: 02048
  Record Length: 00128
  Offset Length: 00

************ Tape Mark ***************

  Actual Block Size Found = 2048 Bytes.

  Number of data blocks read = 6.

************ Tape Mark ***************

EOF1D001R001   VSEC0100010003000000 92069 00000 000006

  Label Identifier: EOF1
  File Identifier: D001R001
  File Set Identifier: VSEC01
  File Section Number: 0001
  File Sequence Number: 0003
  Generation Number: 0000
  Generation Version Number: 00
  Creation Date: 92069
  Expiration Date: 00000
  File Accessibility:
  Block Count: 000006
  Implementation Identifier: .

EOF2F0204800128   00

  Label Identifier: EOF2
  Recording Format: F
  Block Length: 02048
  Record Length: 00128
  Offset Length: 00

************ Tape Mark ***************

          <<<<< *PART OF LOG REMOVED HERE* >>>>>

************ Tape Mark ***************

HDR1D001T032   VSEC010001034000000 92069 00000 000000

  Label Identifier: HDR1
  File Identifier: D001T032
  File Set Identifier: VSEC01
  File Section Number: 0001
  File Sequence Number: 0034
  Generation Number: 0000
  Generation Version Number: 00
  Creation Date: 92069
  Expiration Date: 00000
  File Accessibility:
  Block Count: 000000
  Implementation Identifier:

HDR2D0204800260   00

  Label Identifier: HDR2
  Recording Format: D
  Block Length: 02048
  Record Length: 00260
  Offset Length: 00

************ Tape Mark ***************

  Actual Block Size Found = 2048 Bytes.

*** *WARNING - This variable length record type file contained*
    carriage control characters. Carriage control characters
    are used as record terminators and are interpreted
    differently among dissimilar systems.

  Number of data blocks read = 212.

************ Tape Mark ***************

EOF1D001T032   VSEC010001034000000 92069 00000 000212

  Label Identifier: EOF1
  File Identifier: D001T032
  File Set Identifier: VSEC01
  File Section Number: 0001
  File Sequence Number: 0034

```
  Generation Number: 0000
  Generation Version Number: 00
  Creation Date:  92069
  Expiration Date:  00000
  File Accessibility:
  Block Count: 000212
  Implementation Identifier:
```

EOF2D0204800260   00

```
  Label Identifier: EOF2
  Recording Format: D
  Block Length: 02048
  Record Length: 00260
  Offset Length: 00
```

*********** Tape Mark ***************

*********** Tape Mark ***************

############ End of Volume VSEC01 ##############

############ End Of Tape File Set ##############

Deallocating /dev/rmt0...

Tape Import Process terminated with 0 error(s), 2 warning(s),
and 0 note(s).

9.3 Tape File Set Validation Log

CALS Test Network File Set Evaluation - Version 1.2; Release Number 8
    Standards referenced:
        MIL-STD-1840A (1987) - Automated Interchange of Technical Information
        MIL-R-28002 (1989) - Raster Graphics Representation In Binary
                             Format, Requirements For

Fri Apr 3 10:59:06 1992

MIL-STD-1840A File Set Evaluation Log

File Set: Set099

Found file: D001
Extracting Document Declaration Header Records...
Evaluating Document Declaration Header Records...

srcsys: VSE Corporation, Marine Corps Systems Division, 2760 Eisenhower Ave., Alexandr
22314
srcdocid: TM 2350-25&P/2
srcrelid: NONE
chglvl: ORIGINAL
dteisu: 19920108
dstsys: CTN Wright-Patterson
dstdocid: TM 2350-25&P/2
dstrelid: NONE
dtetrn: 19920309
dlvacc: NONE
filcnt: G1,R31,T1
ttlcls: UNCLASSIFIED
doccls: UNCLASSIFIED
doctyp: Technical Publication
docttl: Special Mission Kits for AAV

Found file: D001G033
Extracting DTD Header Records...
Evaluating DTD Header Records...

srcdocid: TM 2350-25&P/2
dstdocid: TM 2350-25&P/2
notes: NONE

Saving DTD Header File: D001G033_HDR
Saving DTD Data File: D001G033_DTD

```
Found file: D001R001
Extracting Raster Header Records...
Evaluating Raster Header Records...

srcdocid: TM 2350-25&P/2
dstdocid: TM 2350-25&P/2
txtfilid: W
figid: cover
srcgph: usmc
doccls: UNCLASSIFIED
rtype: 1
rorient: 000,270
rpelcnt: 000720,000709
rdensty: 0600
notes: NONE

Saving Raster Header File: D001R001_HDR
Saving Raster Data File: D001R001_GR4

            <<<<< PART OF LOG REMOVED HERE >>>>>

Found file: D001R031
Extracting Raster Header Records...
Evaluating Raster Header Records...

srcdocid: TM 2350-25&P/2
dstdocid: TM 2350-25&P/2
txtfilid: W
figid: 6-6.2
srcgph: fig6-6.2
doccls: UNCLASSIFIED
rtype: 1
rorient: 000,270
rpelcnt: 002111,002160
rdensty: 0600
notes: NONE

Saving Raster Header File: D001R031_HDR
Saving Raster Data File: D001R031_GR4

Found file: D001T032
Extracting Text Header Records...
Evaluating Text Header Records...

srcdocid: TM 2350-25&P/2
dstdocid: TM 2350-25&P/2
txtfilid: W
doccls: UNCLASSIFIED
notes: NONE
```

Saving Text Header File: D001T032_HDR
Saving Text Data File: D001T032_TXT

Evaluating numbering scheme...
No errors were encountered during numbering scheme evaluation.
Numbering scheme evaluation complete.

Checking file count...
No errors were encountered during file count verification.
File Count verification complete.

No errors were encountered in Document D001.

No errors were encountered in this File Set.

MIL-STD-1840A File Set Evaluation Complete.

10. Appendix B - SGML Parser Logs
10.1 XGML Parser Log

No reported errors.

10.2 Datalogics Parser Log

No reported errors

11. Appendix C - Raster Files
11.1   Error Logs
11.1.1   D001R006

```
density      = 600
path length = 1868
scan lines   = 2190
bit format   = MSB
```

error, scan length exceeds pel count
s=1 a0=0 bstop=1869 pos=0

file = r006.cal

11.1.2   D001R007

```
density      = 600
path length = 1931
scan lines   = 2434
bit format   = MSB
```

error, scan length exceeds pel count
s=1 a0=0 bstop=1932 pos=0

file = r007.cal

11.1.3   D001R008

```
density      = 600
path length = 1879
scan lines   = 2119
bit format   = MSB
```

error, scan length exceeds pel count
s=39 a0=0 bstop=1909 pos=21

file = r008.cal

11.2 Preview
11.2.1 D001R005

Circuit 7
Lead

Circuit 6
Lead

1W16

1W41
AAVC7A1
ONLY

WIRING DIAGRAM

AAVP7A1 OR AAVC7A1
VEHICLE

11.2.2 D001R010

HARNESS
(1, FIG. 3-6)

24

24a

27

28

18

19

20

19

21

14

12

TUBE
(4, FIG. 3-5)

22

(17)

16

13

(15)

(23)

22

24b

26

6

(11)

10

2

7

1

5

3

4

25

8

(9)

25

EXHAUST PIPE (8, FIG. 3-7)
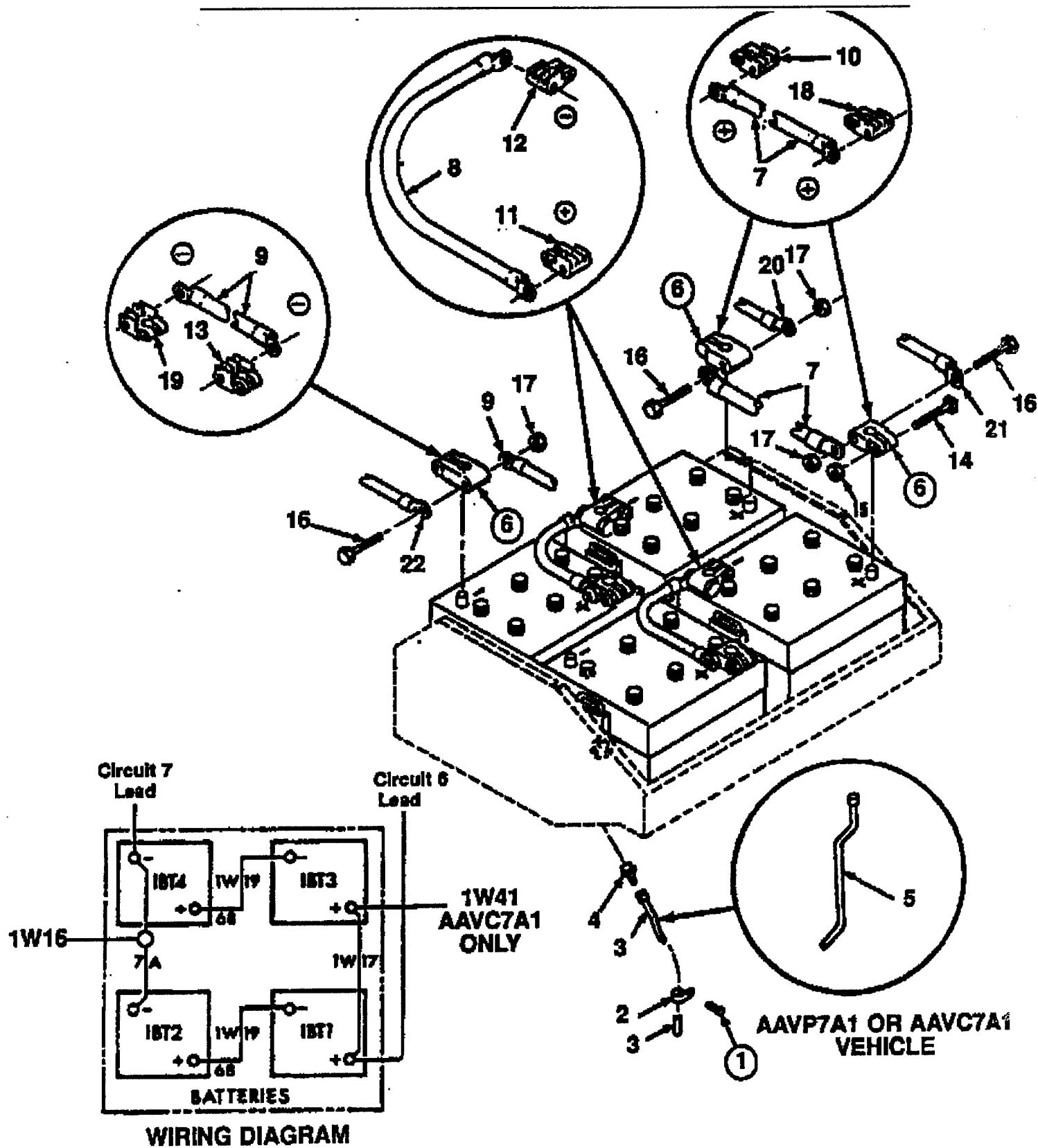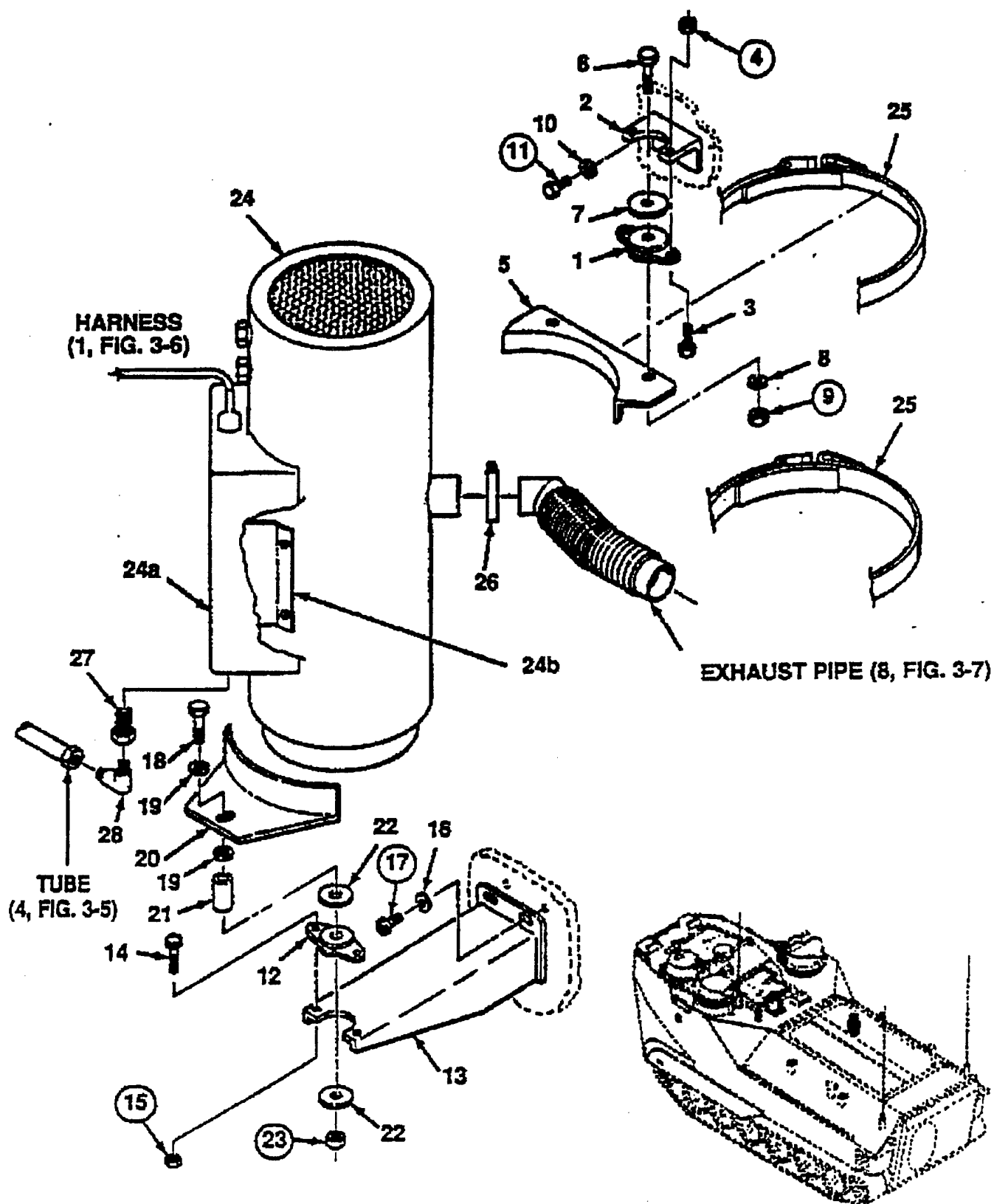
11.2.3 D001R015
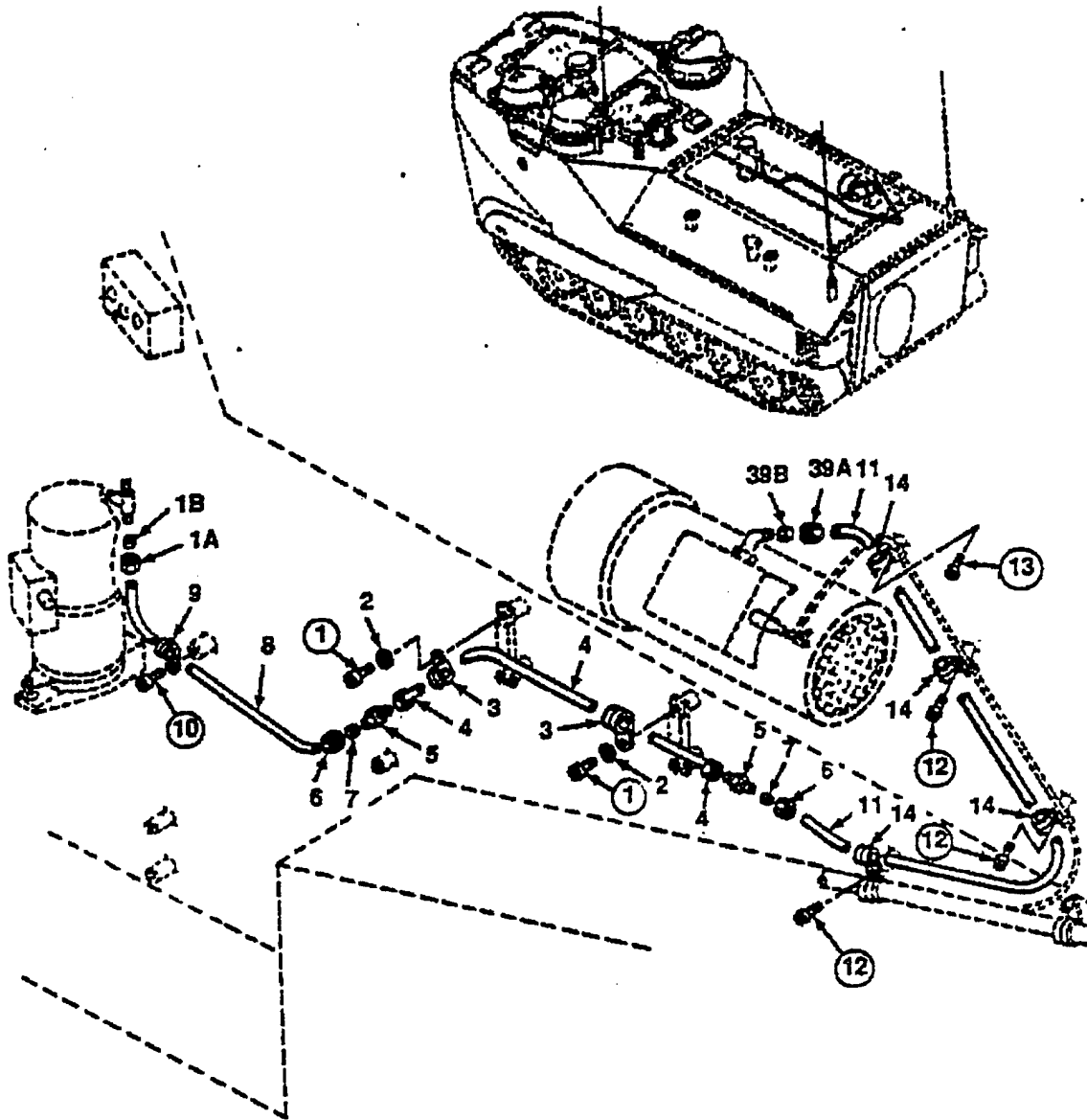
NOTES: 1. Nut 1A and sleeve 1B are part of tee (1, Figure 3-5).
2. Nut 39A and sleeve 39B are part of elbow (39, Figure 3-16).

11.2.4   D001R020 - High Quality

(INBOARD CHAIN ASSEMBLY)

VIEW A-A
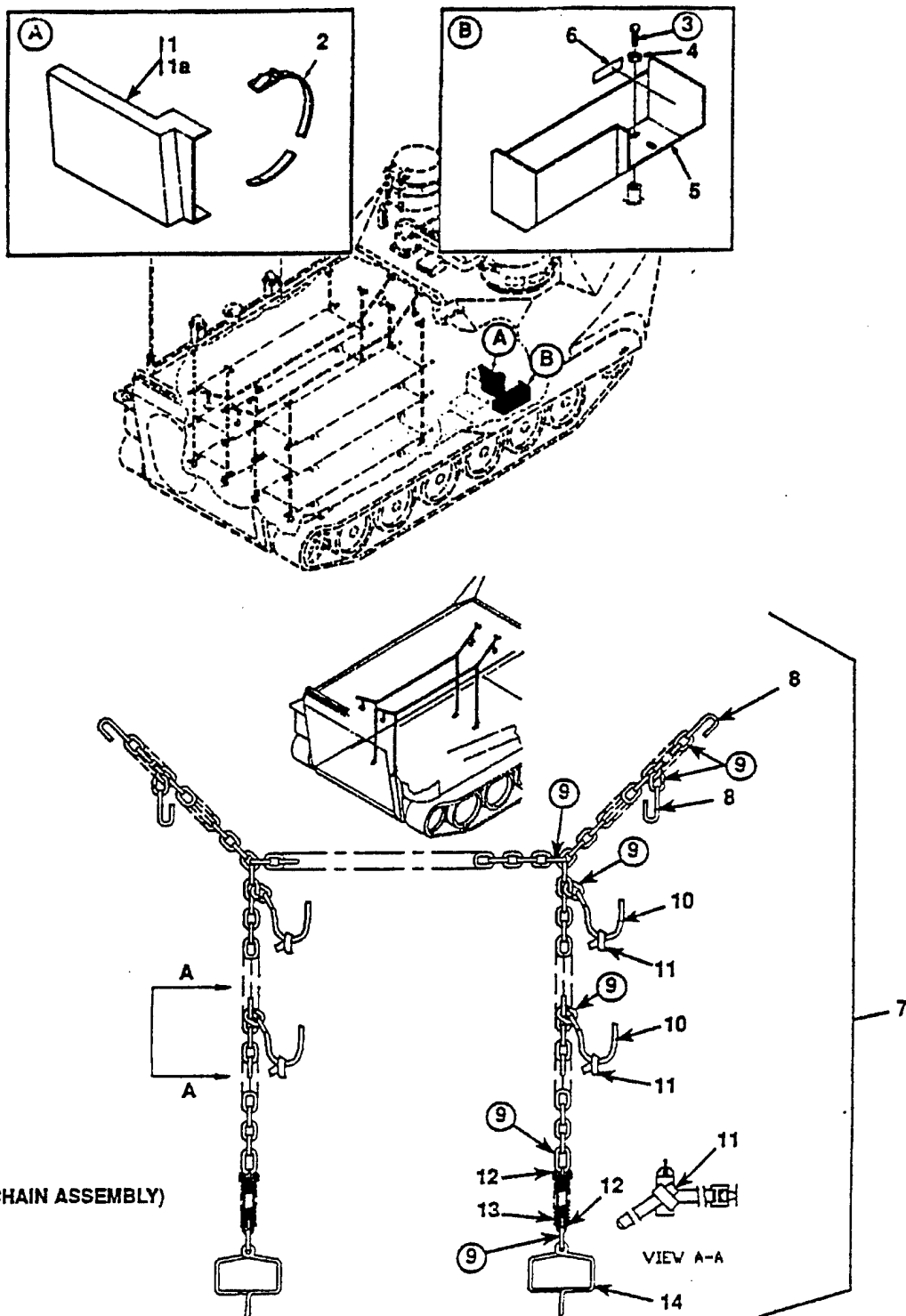
11.2.5 D001R025

FORWARD FAIRING

6P 5P 4P 3P 2P 1P

7P

8P

9P 10P 11P 12P 13P 14P

MIDDLE FAIRING

TRACK SHROUD FAIRING

PORT

FORWARD FAIRING

1S 2S 3S 5S 6S 7S

8S

9S

15S 14S 13S 12S 11S 10S

MIDDLE
FAIRING

TRACK SHROUD FAIRING

STARBOARD

11.2.6 D001R030

5 (See View A)

7 (See View C)

6 (See View B)

6a (C7A1 Only)

1S

2S

8 (See View D)

2P

1P

10 (See View F)

9 (See View E)
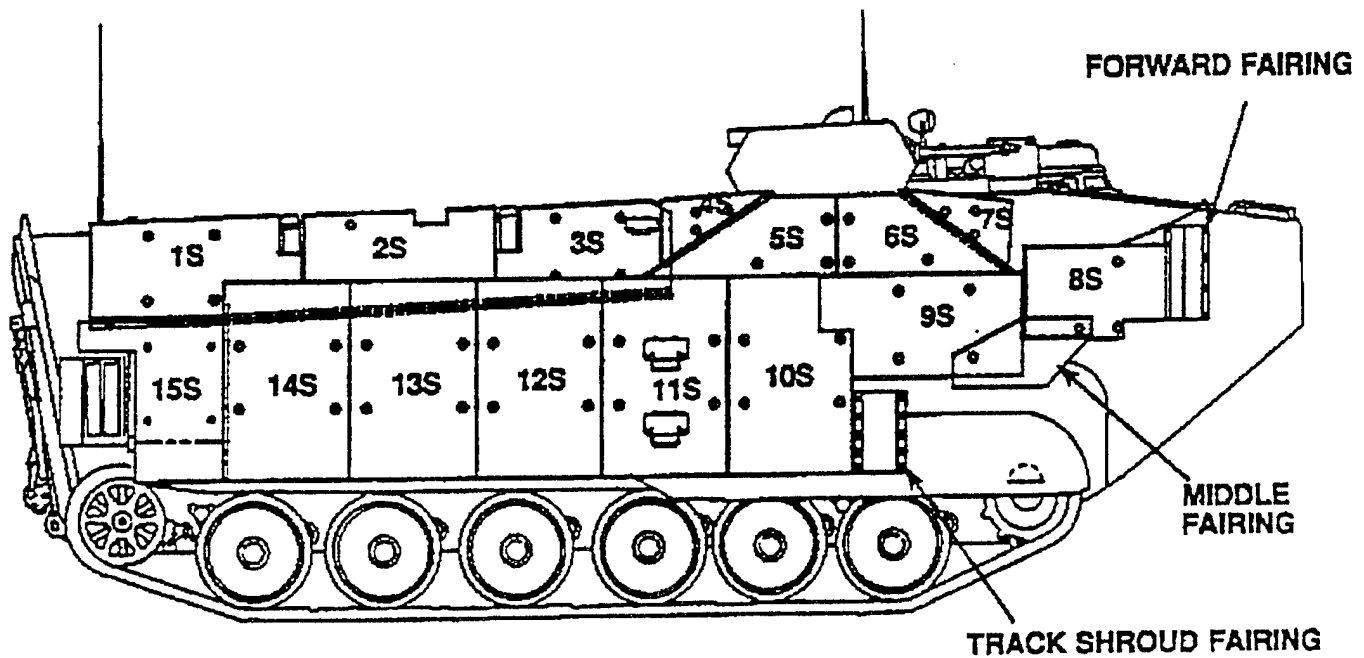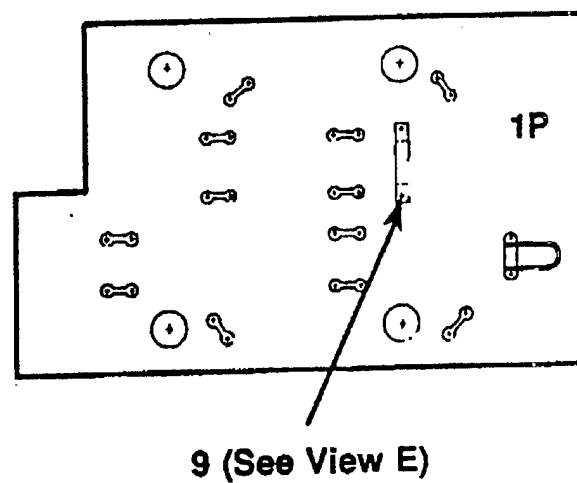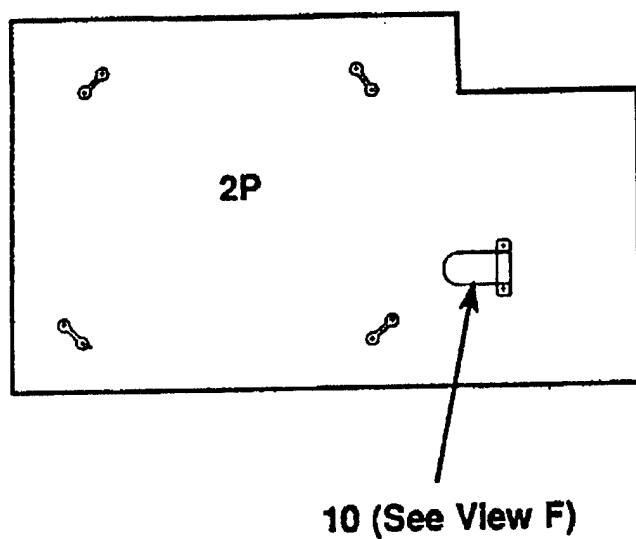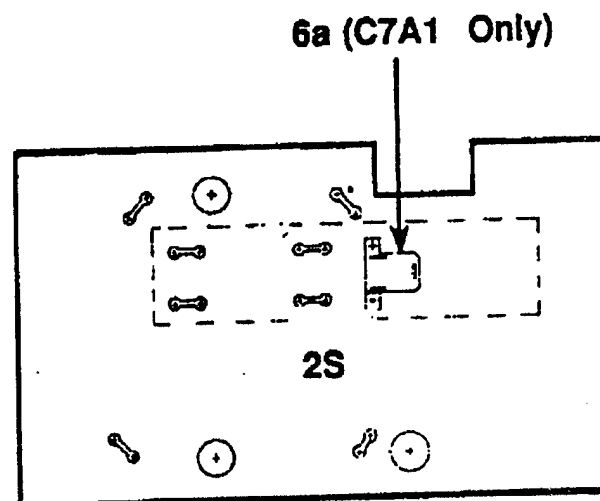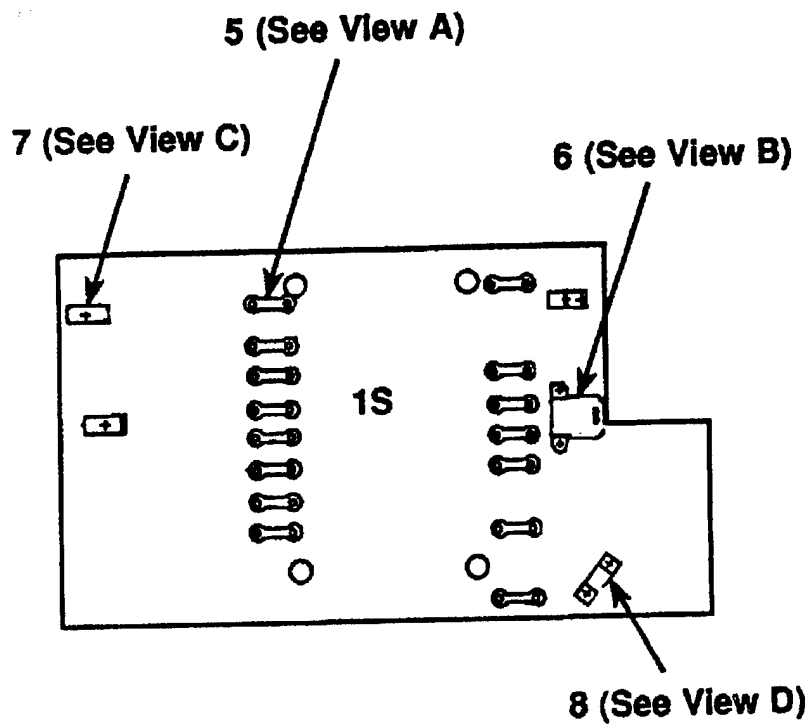
11.3   HiJaak/Ventura Publisher
11.3.1   D001R001 - D001R006
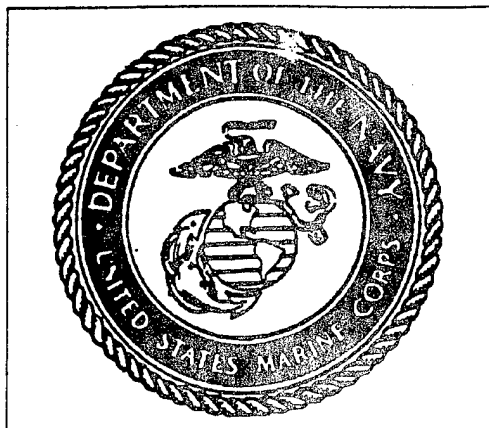
D001R001
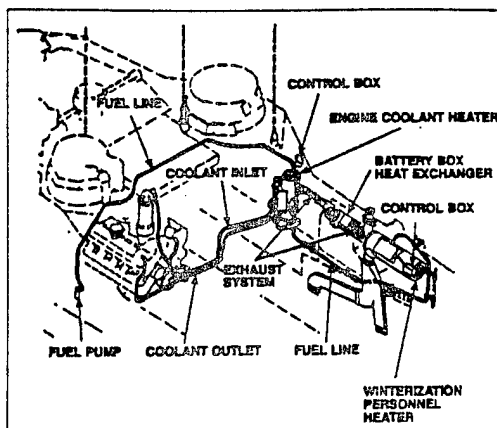
D001R002
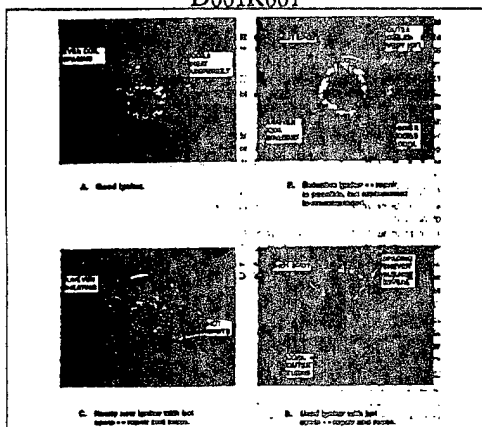
D001R003
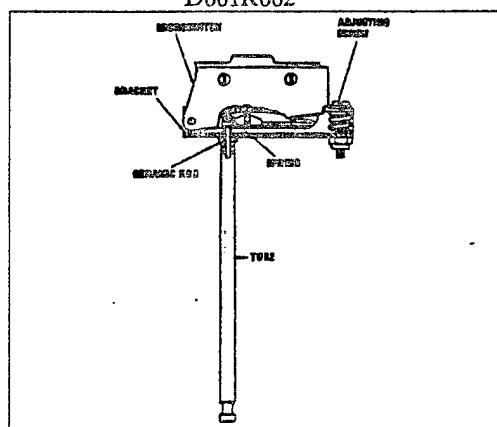
D001R004
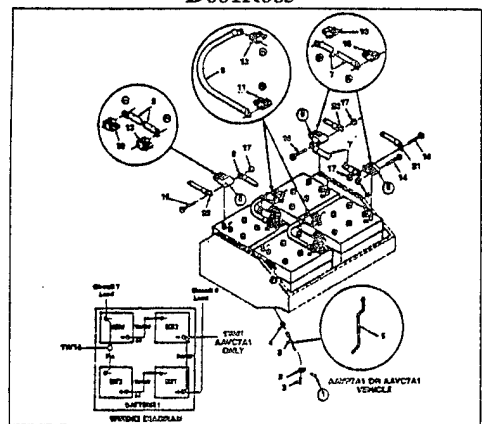
D001R005
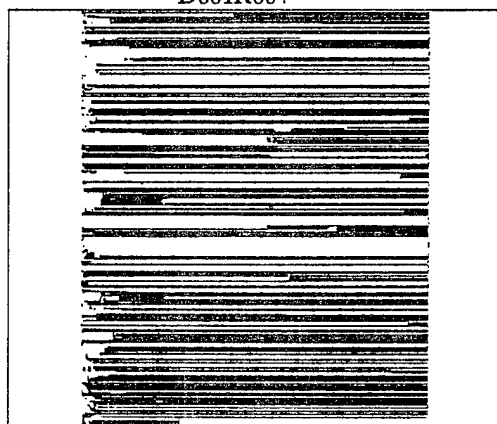
D001R006

11.3.2 D001R007 - D001R013

D001R007

D001R009

D001R010

D001R011
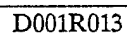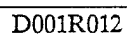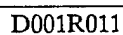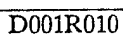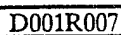
D001R012

D001R013

11.3.3 D001R014 - D001R019
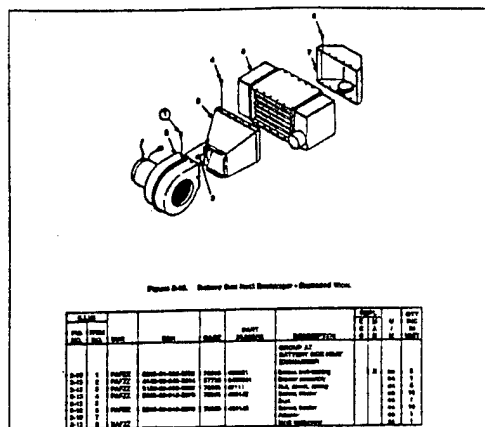
D001R014
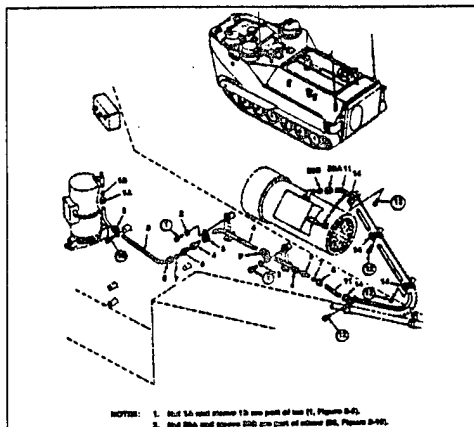
D001R015
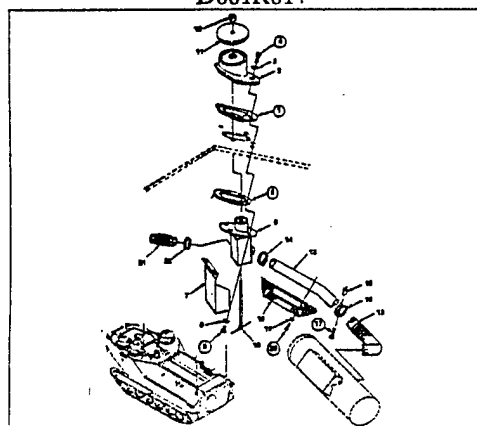
D001R016
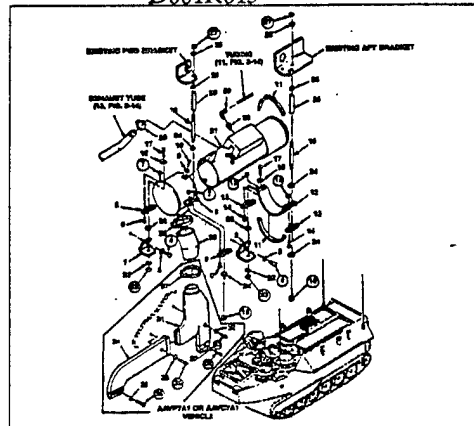
D001R017
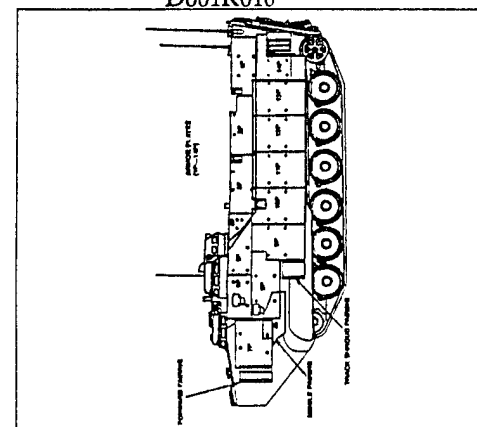
D001R018
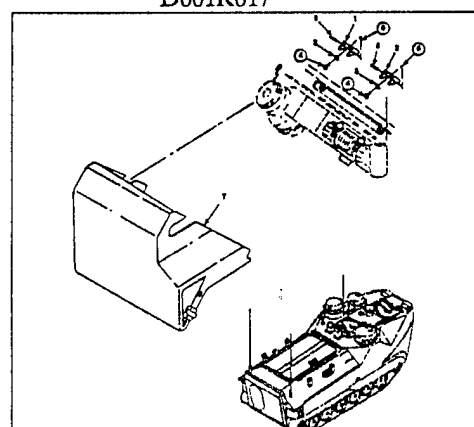
D001R019

11.3.4 D001R020 - D001R025
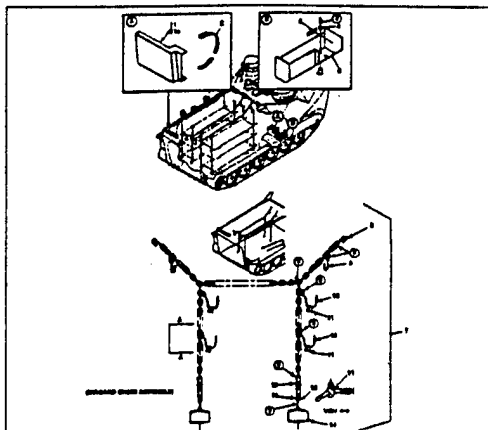
D001R020
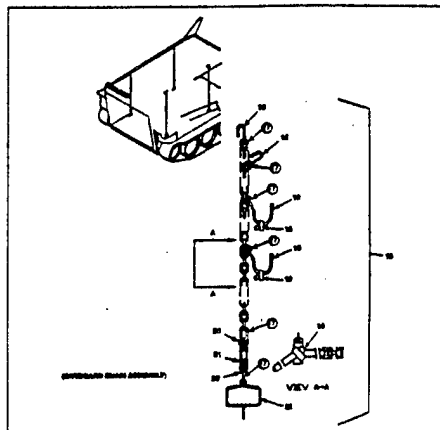
D001R021
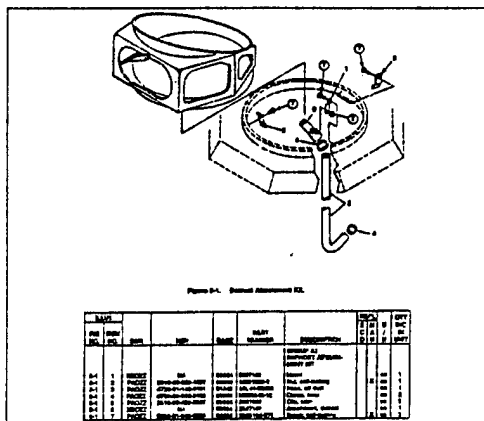
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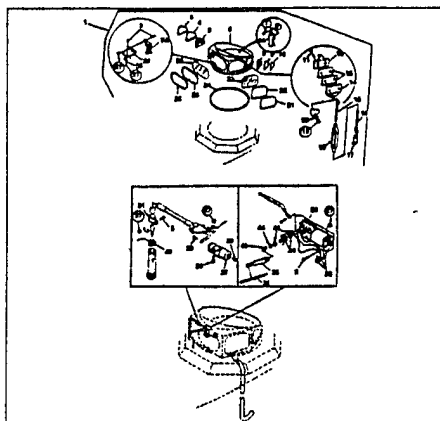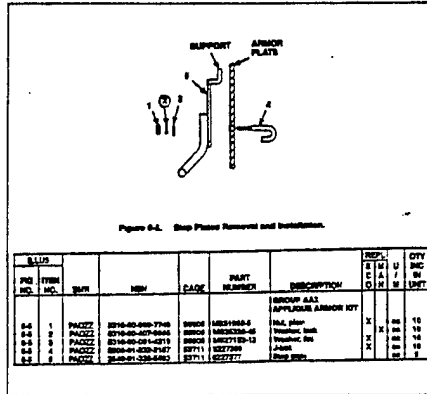
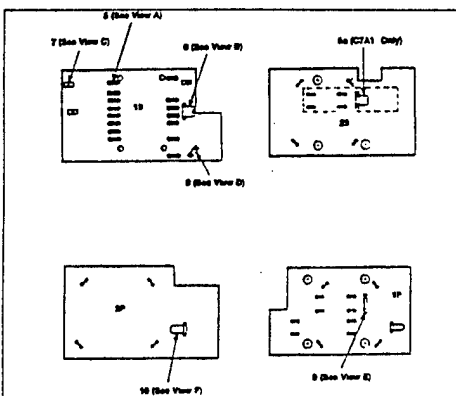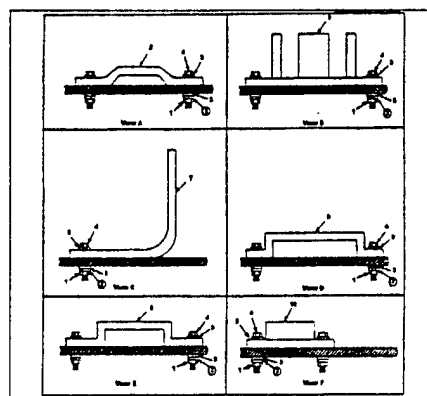D001R023
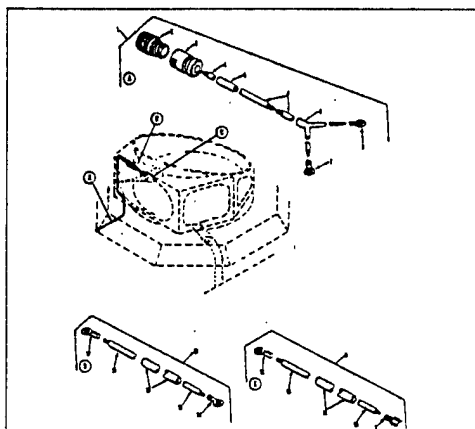
D001R024
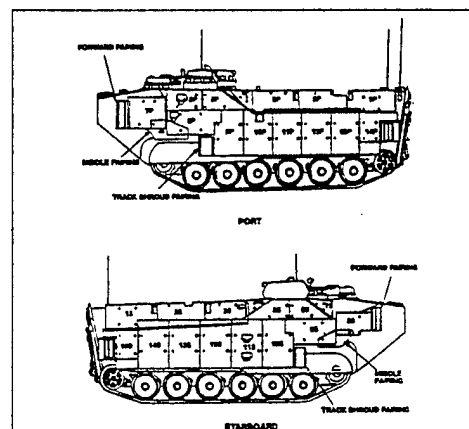
D001R025

11.3.5 D001R026 - D001R031
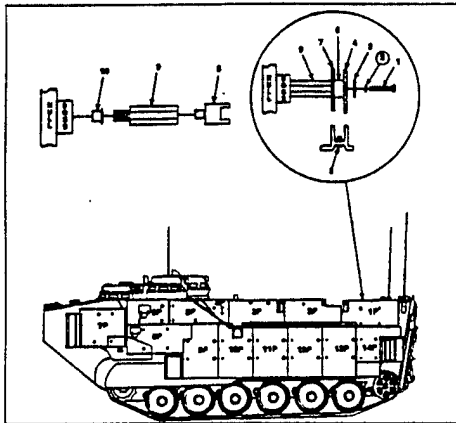
D001R026
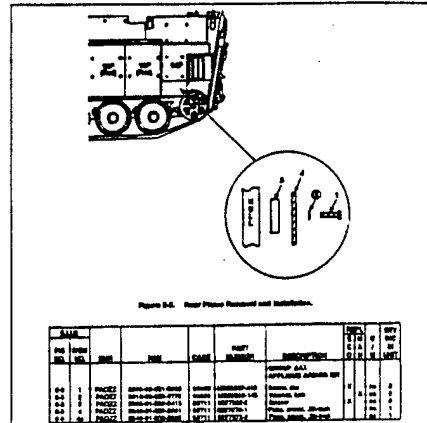
D001R027
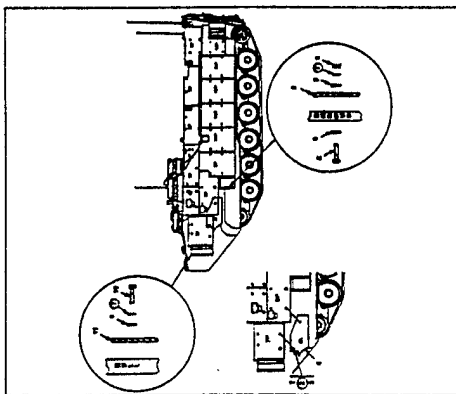
D001R028

D001R029

D001R030

D001R031